METHODS AND SYSTEMS

used in

IDENTIFICATION BUREAUS *of the* WORLD

Revised and Enlarged Edition

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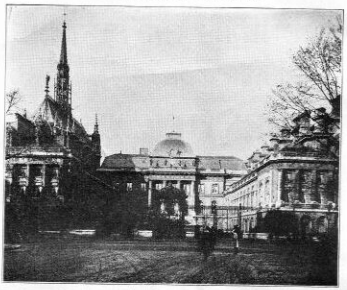
IDENTIFICATION SYSTEMS OF THE WORLD

— The Vucetich System —

(Used in Mexico and practically all South American Countries)



This shows the famous Paris Police Department Building in which the world-famed French Identification Bureau is located.

The Vucetich System in its general acceptance is nothing more than an adaptation of one of the latest systems of Sir Francis Galton.

The Spanish names arco, presilla interna, presilla externa and verticilo which are used in the Vucetich classification of the finger patterns since the year 1897, are the same which Galton used since 1892 with the English names—arch, inner loop, outer loop, and whorl.

The letters A, I, E, V, and the figures 1, 2, 3, 4, which in the Vucetich System represent those classifications, are perfectly equivalent to A, I, O, W, 1, 2, 3, 4, used by Galton.

The classifications and their value are grouped as follows:

Arch	A.	Whorl	V.
Loop to the Left	I.	Accidental	X.
Loop to the Right	E.	Amputation	O.

When these patterns occur in any other finger except the thumb they are given the following values.

Arch	1.	Loop to Right	3.
Loop to Left	2.	Whorls and Composites	4.

Damaged or Missing.....5.

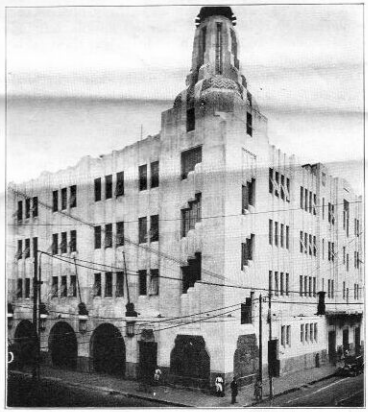
Application of the System

With a set containing the following patterns:

Right Thumb	Ulnar Loop
Right Index	Whorl
Right Middle	Arch
Right Ring	Central Pocket Loop
Right Little	Twinned Loop
Left Thumb	Lateral Pocket Loop
Left Index	Radial Loop
Left Middle	Ulnar Loop
Left Ring	Ulnar Loop
Left Little	Ulnar Loop

Would result in the following classification, the left hand is given first:

V3222—E4144



This formidable structure houses the new Mexican Police Headquarters at Mexico City. Its identification bureau is one of the best in the world.

Where the cards tend to accumulate in groups which are too large to be handled effectively under this system of classification, a ridge count in the index finger makes a subdivision. Where a whorl occurs in the index finger a ridge count is made of the first loop following the index finger.

"The French System"
(In use at Paris, France)

In the bureau of Paris, France you will find that their finger print and Bertillon Cards are both made of heavy cardboard and measure 5¾ x 5¾—that the rolled prints are placed at the bottom of the card with the plain prints above them—that the prints of the right hand are on one side of the card and the prints from the left hand are on the other side—and the classification is entirely different from that of the Henry System.

The prints are arranged in an entirely reverse order on the cards: left little, left ring, left middle, left index and left thumb; right thumb, right index, right middle, right ring, and right little fingers.

This is the order from left to right that your fingers would take if you spread them out before you with the palms down.

The French System of Classification is a combination of the Galton, Vucetich and Bertillon Systems. The primary classification consists in giving a numerical value to the pattern on each digit of the left hand.

These values are as follows: A loop flowing toward the left (1), a loop flowing toward the right (2), all whorls and composites (3), and arches (4).

They make no distinction between ulnar and radial loops as we do. If a loop flows toward the left on the card it is given the value of (1) and if it flows toward the right on the card, it is given the value of (2) regardless as to which hand the print is from.

Thus, if we had an ulnar loop in the left little, a radial loop in the left ring, a whorl in the left middle, a twinned loop in the left index, and an arch in the left thumb, we would have a primary classification of: 12,334. You can readily see from this that the primary classifications run from 11,111 to 44,444.

The first subclassification is made by giving a letter

value to the pattern on each digit of the right hand. A loop flowing toward the left is given the value of I, while those flowing toward the right are classified as E; whorls and composites are given the value of O, and arches the value of U. Thus if we had an arch in the right thumb, a twinned loop in the right index, a whorl in the right middle, a radial loop in the right ring, and an ulnar loop in the right little finger, we would have a subclassification of UOOIE.

The above classification forms sufficient divisions to subdivide the collection into workable groups with the exception of the few large accumulations which correspond with our 1 over 1, 1 over 17; 5 over 17. In these large accumulations the Paris bureau further subdivide their cards by means of three Bertillon Measurements which are entered on all finger print records. These measurements are head-length, head-width and left middle finger length.

The primary and Secondary classification affords great efficiency in both filing and searching, but the final classification where the Bertillon measurements are used is slow and cumbersome.

The idea of having the prints from the two hands on opposite sides of the card, appears to slow up the work of taking the prints, classifying, filing and searching without any apparent advantage except to reduce the size of the card, if this can be termed an advantage.

When an arrest is brought to the Paris Bureau he is first sent to the Bertillon room where his measurements are taken. The first six Bertillon Measurements are all that are being taken now and for the purpose of filing only the first three are used, as previously explained.

A separate Bertillon file is not now maintained and all records are filed under the finger print and Bertillon combination system.

The Paris Bureau is the central bureau for all France and all cities in France co-operate with the Paris Bureau.

Outside cities take three sets of prints of all arrests. One set is filed alphabetically in the local bureau and the other two are sent to Paris.

In the Paris bureau there are two separate files, one for the city of Paris and the other for the remainder of France.

Classification Room, Bureau of Identification, Berne, Switzerland

There are about twelve million cards filed in the Paris bureau.

However, this does not mean that there are twelve million different subjects on record, for the reason that every time a subject is arrested a new set of prints is made and the new card is bound together with any previous cards and placed in the files.

The authorities estimate that they have the records of one million subjects on file in this bureau.

The date of birth is noted on all cards and when a subject reaches the age of 80 his card is removed.

In the case of death his card is removed at once.

The cards are filed vertically in wooden drawers without tops which collect considerable dust. The drawers fit into pressed steel filing cabinets which are two tiers high and have steel platforms for the operators to stand on, while working on an upper tier.

The record cards in the Paris Bureau date back to 1882 and the bureau has been receiving prints since 1890.

The Berne, Switzerland Bureau

The Federal Police system of Switzerland is divided into three departments, Identification, Penal and Police Monitor.

The Swiss have in their possession a copy of the Henry book in German and their bureau is arranged according to Sir E. R. Henry's system of classifying and filing.

The Swiss Bureau is the only bureau in central Europe that adheres strictly according to the Henry System.

There are twenty-five states or cantons in Switzerland and each one sends the finger prints and criminal records to the Central bureau at Berne.

The only difference in the classification as used in Switzerland and the United States is that the Swiss count the furrows to obtain the ridge count and tracing, whereas we count the ridges.

There are about 50,000 cards on file in the Berne Bureau and they are being increased at the rate of 9,000 a year. The cards are filed in open boxes which fit into the wooden shelving.

Few subclassification guides are used, but more will be added from time to time in accordance with the Henry System.

"The Gasti System"

(Used at the Bureau in Rome, Italy)

The Scientific Police School.

The Police School in Rome is known throughout the world for its efficacy and thoroughness. Those who are permitted to attend this school are:—the vice officials of police, the privates of carabinieri, precinct captains' agents or investigation and petty officers of the Navy who are in charge of the Police on board ships.

In this school they are taught Finger Prints, Bertillon, Modern Police Procedure, Photography, etc., etc.

In taking finger prints at the Rome Bureau the operator first thoroughly cleans the subject's hands with a cloth saturated with gasoline. The inking table consists of a wooden block covered with a sheet of highly polished aluminum. The operator first inks all of the fingers of the subject's left hand and then rolls the fingers on the card in the following order: left thumb, left index, left middle, left ring and left little fingers. The plain impressions of the left hand are then taken. Then the right hand prints are followed in the same manner.

The system of classification and filing as used in Rome and throughout Italy is known as the "Gasti" System, and was devised by Professor Gasti of the University of Milan, Italy.

The Gasti System is based on the principle of giving a numerical value to each type, and then splitting certain types into groups and assigning a numerical value to each group.

View in Rome, Italy, Bureau Showing Chart and Finger Print File

The numerical values run from 0 to 9 inclusive, and are applied as follows: Arch 1; Radial loop (regardless of count) 2; Ulnar loop with ridge count of 1 to 10 inclusive 3; Ulnar loop with ridge count of 11 to 15 inclusive 4; Ulnar loops with ridge count over 15, 5; Inner Whorl 6; Meeting Whorl 7; Outer Whorl 8; Composites 9, and all missing, damaged, undecipherable patterns, 0.

Thus ten numerical symbols are obtained with which a combination is made and entered on a card by means of which the card is filed. The Gasti system of classification is divided into three parts as follows: "Series," "Section," and "Number."

The "Series" is formed by the three fingers representing the patterns in the index, thumb and ring fingers of the left hand. The "Section" is formed by the three fingers representing the patterns in the index, thumb and ring fingers of the right hand and the "number" is formed by the four fingers representing the patterns in the middle and little fingers of the left hand and the middle and little fingers of the right hand.

Thus for a set of prints containing the following patterns:

Left Hand:
- Thumb—Twinned Loop.
- Index—Radial Loop.
- Middle—Ulnar Loop—count of 7.
- Ring—Outer Whorl.
- Little—Ulnar Loop—count of 13.

Right Hand:
- Thumb—Ulnar Loop—count of 19.
- Index—Arch.
- Middle—Ulnar Loop with count of 5.
- Ring—Inner Whorl.
- Little—Ulnar Loop with count of 14.

We would have a numerical result as follows:

LEFT HAND—Thumb, 9.	RIGHT HAND—Thumb, 5.
Index, 2.	Index, 1.
Middle, 3.	Middle, 3.
Ring, 8.	Ring, 6.
Little, 4.	Little, 4.

This would give you a "series" of 298, and a "section" of 156 and a "number" of 3,434.

In doubtful cases the numerical value for each possible pattern is noted and the set is searched for under all possible combinations.

The first division in the Identification file consists of an Identification chart file. The cabinets for this file have the appearance of high desks with sloping tops, which are hinged at the back and swing upward. The Identification Chart file cards are made of stiff cardboard and measure 2⅝"x3¾" printed both sides. On the front appear the section and the number which are two sets, as previously explained. On the front of this card also appear the family and the Christian names of the individual to whom the card belongs. On the back of the card appears the "Series" then according to "Section" and lastly according to "Number." Colored guides are used.

When the chart File Card has been made out and filed for a set of prints, the finger print card bearing the original set of prints is filed in an alphabetical file. Vertical filing is used in the alphabetical file. These cabinets consist of a set of seven drawers mounted one above the other.

Each drawer is divided lengthwise into five sections in which are filed the finger print cards.

The finger print card measures 6½" x 8¼". The subject's name, address, date of birth, rolled and plain impressions, appear on one side of the card, while the front and profile photographs and Bertillon measurements appear on the reverse side. The Bertillon system has been discontinued in Italy.

In addition to the above file, the Rome bureau has what is known as the Dactyloscopic register. This is a book or set of books in which are entered in rotation as received, the names of individuals on record and opposite each name appears the "series," "section" and "number" figures from his finger prints. The object of the

register is to aid in making a search for a finger print record where only the prints from one or two digits are available.

For convenience the register is divided into several volumes so that more than one searcher can work on it at a time.

"The Klatt System"

(As Used in the Berlin Bureau)

The Berlin Bureau has over 300,000 sets of prints on file at the present time. The cards are similar to the ones formerly used at Leavenworth, Kansas, and measure 8¼" x 12⅞". Horizontal filing is used.

The cards are placed in heavy looseleaf cardboard covers which are tied together with heavy cord.

The Finger Print System of Identification was installed in 1903 and in 1905 the Bertillon system was discontinued. No Bertillon records have been taken since that date.

The old Bertillon records have been moved to another building and are never used. The date of birth is marked on all cards and the cards are removed from the files when the subject becomes 90 years of age or upon death. A name and alias index similar to the ones in our bureaus in America is used.

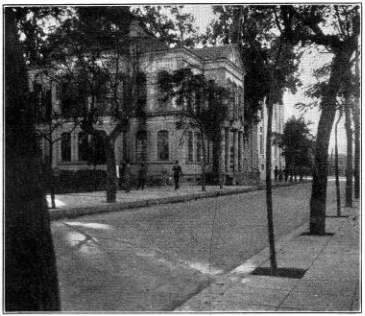
These cards are filed in cardboard boxes, which in turn are placed on wooden shelving.

The system of classification used in the Berlin Bureau was installed by Inspector Klatt in 1903. The system is a combination of the Henry and Windt systems with some modifications introduced by Inspector Klatt. Mr. Windt was formerly connected with the Police Department of Vienna, Austria. The primary classification is the pure Henry method.

The first sub-classification is similar to the Henry System, and is made from the patterns in the two index fingers.

A loop running towards the left on a card, when in either index finger is designated by the capital letter I. A loop running toward the right on the card when in either index finger, is designated by the capital letter E.

A pattern with two deltas in either index finger is designated by the capital letter O, and an arch on either index finger by the capital letter U.



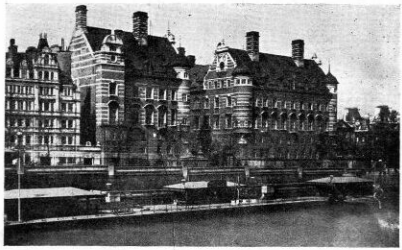
Police Headquarters, Damascus, Syria where Vucetich system is used.

The second subclassification is similar to the Henry method, in that it is based on the patterns occurring in the index and middle fingers. They also differentiate between lettered and non-lettered groups. In case the index and middle fingers are not of the same pattern, the middle finger is only represented in the subclassification. In the sub-secondary classification loops occurring in the index fingers, with a ridge count of nine or less are given the designation of the small letter "a"; and with a ridge count of ten or more, the designation of the small letter "b".

The same applies to the middle fingers. Whorls in the sub-secondary classification are given the value of the small letter "a" if inner, the small letter "b" if outer and the small letter "c" if meeting. Arches are given the value of the small letter "a".

The final classification is the same as the Henry System and is determined by the ridge count in the right little finger when a loop pattern appears. When a whorl or arch appears in the right little finger, the final classification is dispensed with.

New Scotland Yard Bureau, London, England



Famous Scotland Yard of London, England

The system of identification by finger prints was adopted by the police of England in July, 1901, and has completely superseded the Bertillon method of identification.

There are now well over 500,000 prints on record in New Scotland Yard and new records are being received at the rate of 400 a week. These are the prints of all convicted persons in England, Scotland and Wales. Ireland has its own bureau of identification.

The finger print card used at New Scotland Yard is similar to the card used at Leavenworth and measures 8½"x13½".

These cards or slips are placed between heavy cardboard book covers and filed in wooden filing cabinets.

When a slip or card is received, the subject is searched for in the name file. It has been determined that this conserves time, for if the subject's record is found in the name file, it saves the time required to classify the sets of prints and search for it under the finger print classification formula. In case the subject's record is not found in the name file, it is, of course, searched for in the finger print files. The Henry System of Classification is used with certain modifications and extensions.

The Brussels, Belgium, Bureau

The old style of card, as used in the Brussels bureau, was a combination finger print and Bertillon card, simi-

lar to the one now used in the Paris bureau. This card measured 5¾″x5¾″ and was filed vertically. The Bertillon photographs, measurements and the finger print from the right hand, were placed on one side of the card and the name, address, Bertillon note and the finger print from the left hand were placed on the opposite side of the card. This style of card has been discontinued.

The present style of card measures 8½″x13⅛″. Horizontal filing is used with the new style of card. There is no space on the new cards for the Bertillon measurements. Cards printed entirely in red are for female subjects. The cabinets used in the Brussels bureau are extra fine. They are all equipped with sliding fronts similar to the ones used on American roll top desks. These are closed at night and prevent an accumulation of dust and dirt from gathering on the card.

The system of classification and filing used in the Brussels bureau is a combination of the Vucetich and Henry systems with extensions.

The Vucetich system is used in the primary classification. A numerical value is given to the pattern in each one of the ten digits. An arch is given the value of 1, a loop flowing to the left on the card, regardless of which hand it is taken from, is given the value of 2, a loop flow-

Bureau of Identification, Brussels, Belgium

ing to the right on the card is given the value of 3, and all patterns with two or more deltas are given the value of 4. The prints appear in the same order on the new style of card that they are on the American style card.

Thus a set of prints with an ulnar loop in the right thumb, a radial loop in the right index, a whorl in the right little, a central pocket in the left thumb, an accidental in the left index, a twinned loop in the left middle, a radial loop in left ring and a lateral pocket in the left little finger would have the following primary classification: 32413-44434.

The first sub-classification is obtained from the patterns in the index and middle fingers of each hand in accordance with the Henry system, except that when the prints in the index and middle fingers of the same hand are not the same pattern, they are both used, whereas in the true Henry system the pattern from the index alone would be used in this case. Instead of calling these subdivisions I, M and O, as in the Henry system, they are called 1, 2 and 3. The dividing line in the ridge count for the 1, 2 and 3 is the same as the Henry system for I, M and O.

The next subdivision which until a short time ago constituted the final classification, is the ridge count in the right little finger, the same as in the Henry system.

The final classification now consists of the ridge count in the right thumb.

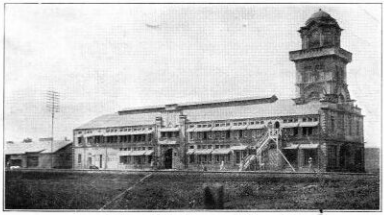
This is a new classification for the Brussels bureau and has been in use but a short time. To further subdivide the all whorl series they are now using the I M O classification or as it is called the 1, 2, 3 classification in the ring fingers in addition to the index and middle finger.

The Zimox System

(Used in Kenya Colony and South Africa)

The system of classification used in South Africa is a combination of the Galton-Henry system, except in the subdivisions of the largest accumulation, and this is carried out by the so-called Zimox system, the complete scheme for which is given in the following paragraphs.

It is ordinarily adopted in the $\frac{1\ U}{1\ U}$ class, but the appli-



Central Finger Print Bureau of Kenya Colony

cation of the principle is not confined to $\frac{1\ U}{1\ U}$, but may be effectively employed in any class where the right and left index, middle and ring fingers are loops. In the Kenya Colony bureau it is applied to $\frac{1}{1}$ where loops appear in either of the digits mentioned, also to $\frac{5}{1}, \frac{9}{1}, \frac{1}{2}, \frac{1}{17}, \frac{5}{17}, \frac{13}{17}, \frac{9}{18}$ and $\frac{13}{18}$.

The Zimox System gives 15,625 combinations, including the primary and secondary Henry classifications. It will, therefore, be readily realized that the application of the Zimox renders search easier and much more rapid than the old method.

Subdivision by Ridge Counting

The number of ridges which intervene between "inner" and "outer" terminus are as follows:

Z— 1 to 4 incl.	O—13 to 16 "
I— 5 to 8 "	X—17 and over.
M— 9 to 12 "	

The ridge counts of all 10 fingers are to be put up, and the counts of the little finger is to be placed over the counts of the right thumb, whether it be a loop or whorl. Should the right thumb be an arch, the counts of the little finger will be placed over a dot, thus in

$$\frac{1}{1} \quad a \quad \frac{U.\ ZZ}{U.\ XX} \quad \frac{14}{\cdot}$$

Classification of Missing and Scarred Fingers

Missing Fingers

Nubian Sentries Guarding Identification Bureau

1. When a digit is missing or deformed, classification is made according to the corresponding digit of the other hand.

2. If the same digit of both hands is missing, the impressions are held to whorls and are classified as meeting.

Scarred Fingers

1. When a digit is so scarred that it is impossible to define the value of the pattern with absolute certainty, classification is made according to the corresponding digit of the other hand.

2. If the same digit of both hands is so scarred that it is not possible to define the value of the pattern, the impressions are held as whorls and classed as meeting.

3. When a digit is not sufficiently scarred to affect either ridge tracing or counting, classification is made according to the apparent value of the pattern.

4. If a digit is, although scarred, an apparent whorl, but too damaged to permit of clear tracing, and the corresponding digit of the other hand is loop, the value of the whorl is held to be "M" irrespective of the number of counts of the loop.

5. If a scarred digit is an apparent loop but so damaged as to prevent clear counting, and the corresponding digit of the other hand is a whorl, the value of the loop is held to be "O" ("M" in Zimox files) irrespective of the tracing of the whorls.

6. The application of rules 3, 4 and 5 is, in all cases, subject to the provisions of rules 1 and 2.

In cases of doubtful impressions, the lower value is always given, but every attempt is made to determine the exact number of counts. Alternations must be applied in all cases of doubt.